
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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TIN IN JUNE 1997

Domestic consumption of primary tin in June was estimated by the U.S. Geological Survey to be slightly higher than in May 1997 and June 1996.

The *Platt's Metals Week* composite price for tin in June was \$3.78 per pound; slightly lower than in May 1997 and 7% lower than in June 1996.

The U.S. Environmental Protection Agency's Lead and Copper Rule significantly lowered the allowable lead levels in drinking water. A new series of very low-lead red brass casting alloys usually containing 4-6% tin has been introduced as an alternative to leaded red brasses. These bismuth/selenium-modified alloys, trademarked as SeBiLoy, were developed by a broad-based group of organizations headed by the American Foundryman's Society, with financial or technical support provided by the U.S. Department of Commerce, the Copper Development Association, the Brass and Bronze Ingot Manufacturers, water products producers, and a number of foundries. The SeBiLoy alloys are finding application in a variety of cast products, especially faucets (Modern Casting, 1997).

In Brazil, Cia. Siderúrgica Nacional (CSN), the largest steel producer, announced a bid to win back part of the aluminum-dominated market for beverage cans. CSN is establishing a \$70 million canmaking plant in the northeastern city of Fortaleza to produce two-piece cans from tinplate. The plant, called Metalic, will have an initial capacity of 70,000 tons annually (about 700 million cans). Reportedly, all of Metalic's initial production has been sold. The plant will be supplied with tinplate from CSN's Volto Redonda plant in the State of Rio de Janeiro. A CSN market study showed that Brazil's beverage can market has grown at an average of 7% per year over the past 15 years. It is estimated that in the year 2000, metal cans will hold 20% of Brazil's beverage market—the rest being glass and plastic bottles and that 20% share will represent 12 billion cans annually. In 1996, 4 billion aluminum beverage cans were used in Brazil. CSN feels that eventually tinplate will have

substantial cost advantages over aluminum, especially owing to aluminum's price being much more dependent on electricity prices. CSN is the only Brazilian tinplate producer with output of more than 1 million tons annually. CSN has six electrolytic tinplating lines using the Ferrostano process (Metal Bulletin, 1997).

In Bolivia, none of the three prequalified firms—Glencore International (Switzerland), Renison Goldfields (Australia, and Paranapanema (Brazil) bid on the capitalization of the 16,000-ton-per-year Vinto tin and antimony smelter. Local sources speculated that this may have been due to unresolved labor problems, an inadequate judicial framework for the auction, and a lack of information about Vinto. The auction winner would have had to match Vinto's book value of \$37 million and settle its \$25 million debt. The developing tin industry in Peru reportedly represents a commercial threat to Vinto. Soon Peru may no longer require tolling by Vinto to refine its tin concentrates, leaving the Vinto facility under-utilized and likely to incur still more debt. Minsur (Peru), currently ships 5,000 to 8,000 tons of concentrates (50% tin) to Vinto annually. Its own recently constructed smelter may produce 12,000 tons of refined tin in 1997, with output possibly rising to 15,000 tons in 1998 (Platt's Metals Week, 1997).

Update

On August 1, 1997, the *Platt's Metals Week* composite price for tin was \$3.74 per pound.

References Cited

- Metal Bulletin, 1997, CSN challenges aluminum for drinks can market: Metal Bulletin, no. 8186, June 12, p. 22.
- Modern Casting, 1997, New bismuth/selenium red brass alloys solve lead concerns: Modern Casting, v. 87, no. 2, p. 57-59.
- Platt's Metals Week, 1997, Vinto refinery future in doubt after auction failure: Platt's Metals Week, v. 68, no. 27, July 7, p. 12.

TABLE 1
SALIENT TIN STATISTICS 1/

(Metric tons, unless otherwise noted)

	1996 p/	1997		
		May	June	January- June
Production, secondary e/ 2/	10,800	900	900	5,400
Consumption:				
Primary	37,700	3,110 r/	3,190	19,000
Secondary	11,100	899	889	5,370
Imports for consumption, metal	30,200 r/	2,670	NA	NA
Exports, metal	4,780 r/	400	NA	NA
Stocks at end of period	4,670	5,270	5,080	XX
Prices (average cents per pound): 3/				
Metals Week composite 4/	412.43	386.59	377.81	XX
Metals Week New York dealer	288.10	267.06	260.83	XX
London, standard grade, cash	279.00	259.00	252.00	XX
Kuala Lumpur	275.19	257.00	249.72	XX

e/ Estimated. p/ Preliminary. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices.

2/ Comprises tin recovered from alloys and tinplate. The detinning of tinplate (coated steel) yields only a small part of the total.

3/ From Platt's Metals Week.

4/ The Metals Week composite price is a calculated formula, not a market price, that includes fixed charges, finance charges, and a risk factor. It normally is substantially higher than other tin prices.

TABLE 2
METALS WEEK COMPOSITE PRICE 1/

(Cents per pound)

Period	High	Low	Average
1996 (annual)	436.25	388.49	412.43
1996:			
June	418.01	410.83	413.65
July	423.04	408.27	417.03
August	411.84	407.75	409.11
September	413.10	402.69	408.04
October	404.38	396.12	400.25
November	409.57	392.40	401.00
December	405.37	388.49	394.76
1997:			
January	404.19	387.89	396.17
February	403.46	390.40	395.64
March	401.81	389.32	395.64
April	393.82	380.00	386.55
May	393.67	378.72	386.59
June	384.93	374.20	377.81

1/ The Metals Week composite price is a calculated formula, not a market price, that includes fixed charges, finance charges, and a risk factor. It normally is substantially higher than other tin prices.

Source: Platt's Metals Week.

TABLE 3
TINPLATE PRODUCTION AND SHIPMENTS IN THE UNITED STATES 1/

(Metric tons, unless otherwise noted)

Period	Tinplate waste (waste, strips, cobble, etc.) (gross weight)	Tinplate (all forms)			Shipments 2/
		Gross weight	Tin content	Tin per metric ton of plate (kilograms)	
1996 p/	181,000	1,550,000	9,620	6.2	2,750,000
1997:					
January	15,900	140,000	853	6.1	204,000
February	13,600	138,000	775	5.6	183,000
March	12,700	144,000	676	4.7	205,000
April	13,800	147,000	776	5.3	210,000
May	13,600	147,000	704	4.8	NA
June	17,400	141,000	782	5.5	NA

p/ Preliminary. NA Not available.

1/ Data are rounded to three significant digits.

2/ Shipments data from American Iron and Steel Institute monthly publication AIS10.

TABLE 4
U.S. TIN IMPORTS FOR CONSUMPTION AND EXPORTS 1/

(Metric tons)

Country or product	1996 p/	1997		
		April	May	January- May
Imports:				
Metal (unwrought tin):				
Bolivia	6,290	741	467	1,970
Brazil	9,460	741	600	3,780
Chile	407	--	--	261
China	2,760	208	179	1,400
India	898	300	160	1,080
Indonesia	7,550	721	618	3,050
Malaysia	965	5	30	475
Peru	481	522	589	3,090
Russia	435	231	15	413
Other	922	69	12	387
Total	30,200	3,540	2,670	15,900
Other (gross weight):				
Alloys	11,800	519	323	2,930
Bars and rods	695	52	71	310
Foil, tubes, and pipes	(2/)	(2/)	--	(2/)
Plates, sheets, and strip	641	6	12	47
Waste and scrap	6,740	64	96	952
Miscellaneous	1,360	92	112	524
Total	21,300	733	614	4,770
Exports (metal)	4,780	442	400	1,980

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 5
CONSUMPTION OF TIN IN THE UNITED STATES, BY FINISHED PRODUCT 1/

(Metric tons of contained tin)

1997								
Product	1996 p/	May			June			January- June total
		Primary	Secondary	Total	Primary	Secondary	Total	
Alloys (miscellaneous) 2/	418	34	--	34	29	--	29	200
Babbitt	201	20	W	20	20	W	20	115
Bar tin and anodes	100	8	--	8	8	--	8	W
Bronze and brass	1,890	54	104	158	93	93	186	973
Chemicals	6,950	624	W	624	624	W	624	3,860
Collapsible tubes and foil	255	21	W	21	25	--	25	151
Solder	8,920	513 r/	W	513 r/	487	W	487	3,050
Tinning	1,640	136	--	136	139	--	139	814
Tinplate 3/	9,620	721 r/	--	721 r/	782	--	782	4,590
Tin powder	573	W	W	W	W	W	W	192
White metal 4/	W	W	W	W	W	W	W	W
Other	1,370	81 r/	295	376 r/	80	296	376	2,070
Total reported	31,900	2,210 r/	399	2,610	2,290	389	2,680	16,000
Estimated undistributed consumption 5/	16,800	900	500	1,400	900	500	1,400	8,400
Total	48,800	3,110 r/	899	4,010 r/	3,190	889	4,080	24,400

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includesterne metal.

3/ Includes secondary pig tin and tin acquired in chemicals.

4/ Includes pewter, britannia metal, and jewelers' metal.

5/ Estimated consumption of plants reporting on an annual basis.

TABLE 6
DEFENSE LOGISTICS AGENCY
TIN STOCKPILE DISPOSALS 1/

(Metric tons)

Period	Monthly disposals 2/
1996:	
June	330
July	1,180
August	1,370
September	2,300
October	--
November	210
December	200
Year total	6,670
1997:	
January	215
February	200
March	115
April	60
May	200
June	60
Total	850

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ These disposals represent only the daily, spot sales program. They do not include the long-term dealer contract sales program.

Source: Defense Logistics Agency.